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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,381	08/04/2003	Ken Ioka	03468/LH	8180
1933	7590	09/21/2005	EXAMINER	
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC 220 5TH AVE FL 16 NEW YORK, NY 10001-7708			MARTIN, LAURA E	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No.	Applicant(s)	
	10/634,381	IOKA ET AL.	
	Examiner	Art Unit	
	Laura E. Martin	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☒ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/14/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: the phrase "line image" is not defined within the specification; however, with respect to the claim, the examiner assumes "line image" refers to pixels being printed on a line.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Beauchamp (US 6474765).

As per claims 1-3, Beauchamp teaches an image forming apparatus comprising a recording head unit (48) in which a plurality of recording heads (50, 52, 54) are

arranged in substantially the same direction as an arranging direction of recording elements such that an overlapped region (C1, L39-40) is formed between the heads; a detector which detects the set angle of each of said plurality of recording heads (user detects misalignment in vernier C7, L6-8) from a predetermined test chart printed using the recording head unit; an image data distributor (input data C7, L8 used as pixel count offset) which distributes image data input to each of said plurality of recording heads (factor between printheads C7, L9-10), in accordance with the detected width of the overlapped region between the heads (detects misalignment, which refers to error in angle and overlap of the printhead); and a driving time correction unit (time of flight compensation C7, L49) which, when driving the recording elements of each of said plurality of recording heads, corrects a driving timing of each recording element (C7, L51-52) in accordance with the detected set angle (angularity C5, L6).

As per claims 7-9, Beauchamp teaches an image forming apparatus, wherein if at least one of said plurality of recording heads is replaced or adjusted (C7, L25-27), a predetermined test chart is printed (vernier fig 5), and at least one of the set angle and the width of the overlapped region (calibration offset) of each of said plurality of recording heads is detected again from the printed tests chart.

Claim Rejections - 35 USC § 103

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beauchamp (US 6474765) as applied to claims 1-3 above, and further in view of Miura et al. (US 2003/0142161).

Beauchamp teaches a detected set angle and detected set width of the overlapped region having an allowable range (if the printed test pattern is skewed, the printhead is offset C7, L7+).

Beauchamp does not teach a notification unit that notifies a message demanding replacement or adjustment of the recording head.

Miura et al. teaches a notification unit (P24, L2-3) that notifies a message demanding replacement or adjustment of the recording head (P24, L2+).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Beauchamp's printing apparatus with the notification unit taught by Miura et al. because it is important that the user be notified if any problems occur with the printing apparatus, in order to take corrective action.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beauchamp (US 6474765) as applied to claims 1-3 above, and further in view of Taylor (US 6663206).

Beauchamp teaches the printing apparatus of claims 1-3; however, he does not teach complementary printing if a line image occurs.

Taylor teaches image data corresponding to the overlapped region between heads (C6, L42) is a line image is determined, and, if the image is found to be a line image (C6, L43-44), the image data is so distributed so that no complementary printing is performed in the overlapped region.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Beauchamp's printing apparatus with the no complementary printing as taught by Taylor because it will decrease the chances of skewing in images.

Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beauchamp (US 6474765) as applied to claims 1-3 above, and further in view of Mantell et al. (US 6332665).

Beauchamp teaches the printing apparatus of claims 1-3; however, he does not teach different color outputs.

Mantell et al. teaches recording head units provided in correspondence with different color outputs (C4, L25-27; 22a-d)

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Beauchamp's printing apparatus with the different color outputs taught by Mantell et al. because most printers contain color cartridges so as to print colorful pictures.

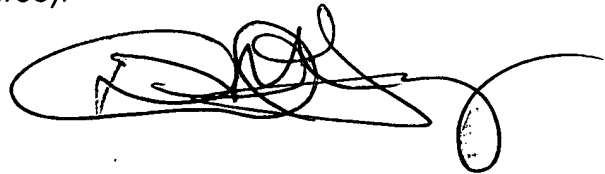
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David M. Gray can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura E. Martin

A handwritten signature in black ink, appearing to read 'David Gray', with a large, loopy flourish extending to the right.

David Gray
Primary Examiner